

REMARKS/ARGUMENTS

In the Office Action, the Examiner rejects Claims 1–19 under 35 U.S.C. § 103(a) as being obvious over U.S. Pat. No. 5,134,719 to Mankovitz in view of U.S. Pat. No. 6,711,390 to Moers.

Applicants have amended independent Claims 1 and 18 to further patentably distinguish the cited references. Independent Claim 17 has been amended to depend from Claim 1. New Claims 20-22 have been added and are fully supported by the specification. Claims 3-4, 7-8, and 11-16 have been amended to depend from new Claim 20. Claims 2, 5-6, and 9-10 have been cancelled.

The Rejection of Independent Claims 1 and 18 Under §103(a) is Overcome

The Examiner finds that independent Claims 1 and 18 are obvious in view of the combination of Mankovitz and Moers. An apparatus according to Claim 1 includes means for scanning a spectrum of frequencies. The apparatus additionally includes means for detecting a plurality of radio stations that broadcast within said spectrum of frequencies. The apparatus further includes means for decoding, for each of a plurality of detected radio stations, at least one piece of supplementary information broadcast in conjunction with the plurality of radio stations. The supplementary information comprises an associated radio station name. The apparatus also includes means for receiving a search criterion. The search criterion comprises a partial or complete name of a radio station. The apparatus further comprises means for generating a set of radio stations whose supplementary information matches said search criterion. The apparatus additionally includes means for displaying the set of radio stations whose supplementary information matches the search criterion. The apparatus further includes means for receiving a selection of one of the set of radio stations whose supplementary information matches said search criterion, and selecting one of the set of radio stations from the supplementary information displayed on the display means. In this regard, Applicants have amended Claim 1 to

include recitations formerly included in now cancelled dependent Claims 2, 5-6, and 9-10. Claim 18 is directed to a method and includes substantially similar recitations.

Mankovitz discloses an apparatus and methods for transmitting and receiving auxiliary data in addition to regular audio broadcast programs including musical selections and announcements. The auxiliary data includes musical selection identification such as title, artist and album name. As can be seen from figure 4, the receiver shown has a panel 100 which includes a plurality of switches used in conjunction with a memory switch to store often used station frequencies wherein pressing one of the switches stores the tuned frequency and future activation of the switch recalls the previously stored station frequency. This is similar to any previously operated frequency storage and recall device typically known as a preset in most receivers.

However, as will be discussed further below, Mankovitz neither teaches nor suggests several recitations of independent Claims 1 and 18. In this regard, Mankovitz neither teaches nor suggests scanning a spectrum of frequencies. Mankovitz also fails to teach or suggest receiving a search criteria where the search criteria comprises a partial or complete name of a radio station. Mankovitz further does not teach or suggest generating a set of radio stations whose supplementary information matches said search criteria. Additionally, Mankovitz neither teaches nor suggests displaying a set of at least one piece of supplementary information, each of the displayed at least one piece of supplementary information associated with the set of radio stations whose supplementary information matches the search criterion. Mankovitz further neither teaches nor suggests receiving a selection of one of the set of radio stations whose supplementary information matches the search criterion, the selection circuitry arranged to select one of the set of radio stations from the supplementary information displayed on the display.

Moers discloses a method for processing a transmitter and program related data in a frequency modulation radio data system receiver. In this regard, Moers discloses a second tuner within the receiver used to scan sequentially through the frequency band to search for any broadcasting transmitter station received with adequate radio frequency signal reception quality. Furthermore, the receiver has a band scanning search which is repeated in subsequent scan cycles and the transmitter related data being updated with regards to the quality factor and being

deleted from the first memory bank when the quality factor decreases below a predetermined quality threshold level.

However, as will be discussed further below, although Moers may suggest a scanning of the spectrum of frequencies and possibility of a search criterion of quality, wherein, only radio frequency signals with an acceptable quality level are output, Moers does not teach or suggest the search criterion comprising a partial or complete name of a radio station as recited by Claims 1 and 18. Moers further does not teach or suggest displaying a set of at least the one piece of supplementary information, with each of the displayed at least one piece of supplementary information associated with the set of radio stations whose supplementary information matches the search criterion. Moers additionally does not teach or suggest receiving a selection of one of the set of radio stations whose supplementary information matches said search criterion. Moers also does not teach or suggest selecting one of the set of radio stations from the supplementary information displayed.

Regarding the combination of Mankovits and Moers, Applicants assert that Mankovitz has a disadvantage in that although it may select any of the preset radio stations, it is not able to perform searches with respect to the station name or fragments of the station name. In this regard, neither the problem nor the solution recited in independent Claims 1 and 18 is addressed in either Mankovitz or Moers and as such there would be no incentive to combine the documents. Accordingly, Applicants submit that it would have not been obvious to combine the two documents in an attempt to arrive at the claimed invention.

However, even if Mankovits and Moers are combined, the combination fails to teach or suggest independent Claims 1 and 18. In this regard, neither Mankovits nor Moers, taken alone or in combination, teaches or suggests search criterion comprising a partial or complete name of radio station, displaying a set of at least one piece of supplementary information matching the output of the filtering circuit, or receiving a selection of one of the set of radio stations whose supplementary information matches said search criterion and is displayed as recited by independent Claims 1 and 18.

Mankovitz in column 6, lines 28 to 34 and in Figure 4, at most discloses a display and display control for controlling the display to display the frequency and title and artist and album.

The Office Action cites column 6, lines 28 to 34 as teaching at least one supplementary information relating to a corresponding radio station. However, Mankovitz teaches providing the frequency but not the name of the radio station. This frequency display item is more clearly illustrated in column 11, lines 28 to 30, which describes that the display is configured with four display lines. One line is used to display tuning frequency in response to data from the circuit.

The Office Action further indicates that Mankovitz teaches means for receiving a selection of one of the plurality of radio stations from the supplementary information displayed by said display means. Mankovitz does suggest in column 3, lines 43 to 63 that a selected portion of the broadcast audio program is selected to display based on the selected text broadcast. However, Mankovitz does not teach or suggest the use of station name information to select one of the plurality of radio stations from the station name displayed by the displayed means.

Additionally, Mankovitz discloses from column 1, line 45 to column 2, line 6 a method wherein the broadcast system transmits a series of text messages which are stored in a user operated storage feature to be recalled at a later time (column 1, lines 63 and 65). Thus the selection process taught by Mankovitz is simply one of displaying the range of title and artist and album values and selecting one. Further, although Moers teaches a search method dependent on the strength of the signal, where the station is selected or deselected based on the quality of the signal, there is no indication provided to the person skilled in the art that a simple power level detection selection could be combined with the text selection method shown in Mankovitz. The process of a text or alphanumeric search would be clearly different from a simple value threshold selection. Accordingly, neither Mankovitz nor Moers, taken alone or in combination, teaches or suggests generating a set of radio stations whose supplementary information matches a search criterion comprising a partial or complete name of a radio station as recited by independent Claims 1 and 18.

The Office Action indicates that Moers in column 7, lines 50-54 teaches the search criteria comprising at least part of a piece of supplementary information. Applicants point out that column 7, lines 50 to 54 is part of a larger section that includes lines 56-58, which teaches

that “for an understanding of the invention, no knowledge is needed about the practical implementation of various circuitry and functions mentioned in the above in connection therewith: these being in particular, measurement of a reception quality and the derivation of a quality factor there from, the selection/detection of adequately receivable transmitters, the extraction of various categories RDS data from the received RDS signals”. This part of the description simply teaches that the selection of RDS values is known and the calculation of thresholds for selection/detection of adequately receivable transmitters is known. However, this section of Moers does not teach or suggest search criterion comprising at least part of a piece of supplementary information where the supplementary information comprises an associated radio station name. Applicants respectfully request that if the Examiner chooses to maintain the objection that the Examiner clearly point out where he considers Moers to suggest that the supplementary information comprises an associated radio station name and that the search criterion comprises at least part of a piece of supplementary information. Moers, at most, teaches searching for the value of a transmission quality and although Mankovitz and Moers do mention supplementary information, there is no suggestion in either of the references to combine the references to apply the search criteria of threshold values for quality to that of the use of supplementary information displayed in Mankovitz. Indeed, such a non-obvious combination would have required significant modification to a combination of the circuits of the systems taught by Makovitz and Moers.

Furthermore, with regards to the disclosure of station names, the Office Action relies on Mankovitz, citing column 1, lines 59 to 68 and column 2, lines 10 to 15 and Figure 4. Column 1, lines 59 to 68, as discussed previously, teaches that the receiver apparatus receives the musical selection and the digital news message signal. The musical selection is reproduced using loud speakers and the like, and the message signal is decoded into the text message which is displayed on the display essentially concurrent with the reproduction of the musical selection. A user operated storage feature is provided for storing the displayed text message, and for recalling it for display at a later time. In another embodiment, the storage feature also stores a portion of the musical selection along with the text message identifying that selection. Column 2, lines 10 to 15 disclose that auxiliary data are data transmitted as part of an FM stereophonic broadcast

system in which a main carrier is transmitted at an assigned broadcast station frequency. An audio sum signal is provided representing the sum of the left and right channels of the stereophonic audio programs and a double sideband suppressed carrier signal is provided where the suppressed carrier is amplitude modulated by an audio signal representing the difference between the left and right channels of the stereophonic audio programs. Accordingly, Applicants respectfully submit that the portions of Makovitz relied upon in the Office Action do not teach or suggest a radio station name and request that the Examiner more particularly point out where it is believed that Makovitz discloses this feature.

Both Moers and Mankovitz have a deficiency compared to the solution offered by the claimed invention in that a user may wish to select a particular station with a known name but may not know the frequency of the station. Furthermore, the user may wish to select the station which the user only has a partial knowledge of the name. In both situations, both Mankovitz and Moers, taken individually or in combination, lack the ability to allow a user to enter the name search criterion, display a list of matches, and then select one from the set as provided by the independent claims.

Accordingly, Applicants submit that neither Mankovitz nor Moers, taken alone or in combination, teaches or suggests decoding at least one piece of supplementary information comprising an associated radio station name for each of the plurality of detected radio stations, receiving a search criterion comprising a partial or complete name of a radio station, generating a set of radio stations whose supplementary information matches the search criterion, displaying the set of radio stations whose supplementary information matches the search criterion, or receiving a selection of one of the set of radio stations whose supplementary information matches the search criterion as recited by independent Claims 1 and 18. Therefore, Applicants submit that the rejection of independent Claims 1 and 18 is overcome and the claims are in condition for allowance.

New Independent Claim 20 is in Condition for Allowance

Applicants have added independent Claim 20, which is directed to an apparatus. In this regard, Claim 20 includes substantially the same recitations as discussed above in conjunction

with Claims 1 and 18 and therefore, Applicants submit that it is patentably distinguishable from the cited references, taken alone or in combination, for at least those reasons discussed above and is in condition for allowance.

New Independent Claim 22 is in Condition for Allowance

Applicants have added independent Claim 22, which is directed to a computer program product and includes substantially the same recitations as discussed above with respect to Claims 1 and 18. Support for this claim may be found in several places in the application. For example, Figure 5 shows a host processor, reference 27 and a memory reference 28. Further, page 10 of the specification describes a host processor 27 of a device which receives the output of the RDS decoder. Additionally, the last paragraph on page 10 describes that the host processor stores data in memory and that if the received data block comprises the program station (PS) name information, the multimedia device may update information displayed apparatus comprising a display of the multimedia device. Accordingly, Applicants submit that the disclosure of the device comprising a processor implicitly discloses a computer program product for instructing the processor and controlling the scanning, detecting and decoding operations.

Since Claim 22 includes substantially the same recitations as discussed above in conjunction with Claims 1 and 18, Applicants further submit that it is patentably distinguishable from the cited references, taken alone or in combination, for at least those reasons discussed above and is in condition for allowance

The Rejection of the Dependent Claims is Overcome

Because the dependent claims include all of the recitations of a respective independent base claim, Applicants submit that the dependent claims are patentably distinct from the cited references, taken alone or in combination, for at least those reasons discussed above with respect to the independent claims and are in condition for allowance.

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It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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